

USDA Forest Service
Rocky Mountain Research Station
Forestry Sciences Laboratory
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Missoula, MT
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CHRISTOPHER D. O'CONNOR

Curriculum Vitae

<https://scholar.google.com/citations?user=3fXqgrcAAAAJ&hl=en>

EDUCATION

UNIVERSITY OF ARIZONA

Ph.D. Natural Resource Management, 2013

Certificate in Dendrochronology, 2013

Committee: D.A. Falk, A.M. Lynch, T.W. Swetnam, R.A. Loehman

Dissertation: *Spatial and temporal dynamics of disturbance interactions along an ecological gradient*

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

M.S. Biology, 2009

Committee: T.T. Work, Y. Bergeron, P. Drapeau, J. Klimaszewski

Thesis: *Carabid response to natural disturbance-based silviculture*

PENNSYLVANIA STATE UNIVERSITY

B.S. Agricultural Science, high honors, 1999

Minor in Entomology

Advisor: C.W. Pitts

DISTINGUISHED RECOGNITION

- **Outstanding Dissertation Award**, University of Arizona School of Natural Resources and the Environment, 2014.
- **Andrew Ellicott Douglass Memorial Scholarship**, University of Arizona Laboratory of Tree-Ring Research, 2012.
- **Western Forest Insect Work Conference Memorial Scholarship**, 2011.
- **Science and Society Fellowship**, University of Arizona Biosphere 2, 2010.
- **Fulbright Fellowship**, Institute of International Education, U.S. Department of State, 2006-2007.

PROFESSIONAL EXPERIENCE

RESEARCH

Current

Ecologist, USDA Forest Service RMRS, 2015-present

Human dimensions of managing the risks and benefits of wildland fire.

Support for the National Forest Planning process and critical examination of the incident command structure to assist in development of scalable, long-term forest and fire planning decision systems.

Previous positions

Postdoctoral Research Associate, University of Arizona SNRE, 2014-2015

Graduate Research Associate, University of Arizona SNRE, 2009-2013

**PROFESSIONAL
EXPERIENCE
CONTINUED**

Research Aid, Michigan State University, 2008
Graduate Research Assistant, Université du Québec à Montréal, 2006-2008
Biological Science Tech., U.S.F.S. Northern Research Station, 2004-2006
Fire Ecology Intern, USGS Jemez Mountains Field Station, 2000
Staff Research Associate, Penn State Department of Entomology, 1999
Undergraduate Research Assistant, Penn State Department of Entomology, 1996-1999

TEACHING

Environmental Sciences Workshop for Students with ASD, *Instructor*, University of Arizona Laboratory of Tree-Ring Research, Spring 2015

Introduction to Wildland Fire, RNR 355, *Instructor*, University of Arizona School of Natural Resources and the Environment, Fall 2014

Dendrochronology Field Week, *Guest Lecturer*, University of Arizona Laboratory of Tree-Ring Research, Summer 2014

Introduction to Global Change, GC 170, *Teaching Assistant*, University of Arizona Laboratory of Tree-Ring Research, Fall 2013

Introduction to Dendrochronology, Geosciences 439A, *Guest Lecturer*, University of Arizona Laboratory of Tree-Ring Research, Fall 2012, 2013, 2014

Field Study in Environmental Geography, Geography 303, *Guest Lecturer*, University of Arizona School of Geography and Development, Fall 2010, 2011

Human Ecology, Biology 003, *Teaching Assistant*, Penn State University Biology Department, Fall 1999

STUDENTS MENTORED

Forrest Treanor, UA, SGD Graduate Research Assistant, 2014-2015

Brian S. Sheppard, UA, SNRE Graduate Research Assistant, 2014-2015

Ben Schippers, UA SNRE Undergraduate Research Assistant, 2009-2013

Alexis Arizpe, UA SNRE Graduate Research Assistant, 2011-2013

Kyle Miller, UA LTRR Graduate Research Assistant, 2012-2014

Marie Eve Andre, UQAM Biology Dept. Undergraduate Research Assistant, 2006-2008

SUSTAINABLE DEVELOPMENT

Peace Corps Volunteer Leader, U.S. Peace Corps Niger, 2002-2003

Peace Corps Volunteer, U.S. Peace Corps Niger, 2001-2002

PEER-REVIEWED PUBLICATIONS

PUBLISHED

O'Connor, C.D., D.A. Falk, A.M. Lynch, T.W. Swetnam. 2015. Post-fire forest dynamics and climate variability affect spatial and temporal properties of spruce beetle outbreaks on a Sky Island mountain range. *Forest Ecology and Management*. 336: 148–162.

O'Connor, C.D., D.A. Falk, A.M. Lynch, T.W. Swetnam. 2014. Fire severity, size, and climate associations diverge from historical precedent along an ecological gradient in the Pinaleno Mountains, Arizona, U.S.A. *Forest Ecology and Management*. 329: 264-278.

Brais, S., T. T. Work, É. Robert, **C. D. O'Connor**, M. Strukelj, A. Bose, D. Celentano, and B. D. Harvey. 2013. Ecosystem Responses to Partial Harvesting in Eastern Boreal Mixedwood Stands. *Forests* 4:364-385.

Lynch A.M., **C.D. O'Connor**. 2013. Mountain pine beetle in Southwestern white pine in the Pinaleno Mountains. Pp. 482-486 in Gottfried G.J., Ffolliott P.F., Gebow B.S. Eskew L.G., Collins L.C., compilers. Merging science and management in a rapidly changing world: Biodiversity and management of the Madrean Archipelago III and 7th Conference on Research and Resource Management in the Southwestern Deserts; 2012 May 1-5; Tucson, AZ. Proceedings. RMRS-P-67. USDA Forest Service, Rocky Mountain Research Station. 593 p. Fort Collins CO.

O'Connor, C. D., G. M. Garfin, D. A. Falk, and T. W. Swetnam. 2011. Human pyrogeography: a new synergy of fire, climate and people is reshaping ecosystems across the globe. *Geography Compass* 5:329-350.

PUBLICATIONS SUBMITTED OR IN PREPARATION

O'Connor, C.D., D.A. Falk, A.M. Lynch, T.W. Swetnam, C.P. Wilcox. In revision. Site productivity mediates stability of species assemblages following fire exclusion. *Ecological Monographs*.

O'Connor, C.D., R.A. Loehman, D.A. Falk, A.M. Lynch, T.W. Swetnam. In prep. Modeling interactions among multiple disturbance events from tree to landscape scales. *Ecological Modelling*.

Swetnam, T.L. and **O'Connor, C.D.** In review. Morphologic plasticity and tree condition lead to altered allometric scaling relationships in semi-arid montane forests. *PlosOne*.

TECHNICAL REPORTS AND THESES

O'Connor, C.D., Treanor, F., Falk D.A., Garfin, G.M., 2016. Climate change-type drought, temperature, and fire effects on Naval Base Coronado inland training sites, San Diego County, California. Strategic Environmental Research and Develop Program (SERDP) Project RC-2232 Interim Report 3.

OTHER PUBLICATIONS

University of Arizona School of Natural Resources and the Environment,
University of Arizona, Tucson. 29 p.

O'Connor, C.D., Sheppard, B.S., Garfin, G.M., Falk D.A. 2015. Quantifying post-fire flooding risk associated with changing climate at Fort Huachuca, Arizona. Strategic Environmental Research and Develop Program (SERDP) Project RC-2232 Interim Report 2. University of Arizona School of Natural Resources and the Environment, University of Arizona, Tucson. 31 p.

O'Connor, C.D., Garfin, G.M., Falk D.A. 2015. Projected climate change impacts on vegetation, fire, and wildlife habitat at Fort Huachuca, Arizona. Strategic Environmental Research and Develop Program (SERDP) Project RC-2232 Interim Report 1. University of Arizona School of Natural Resources and the Environment, University of Arizona, Tucson. 34 p.

O'Connor, C.D., Koprowski, J.L., Lynch, A.M., Falk, D.F. 2014. Mt. Graham red squirrel use of forest habitat: Historical, present, and future perspectives. Final Report for U.S. Forest Service, Rocky Mountain Research Station, Research Joint Venture Agreement 08-253. School of Natural Resources and the Environment, University of Arizona, Tucson. 33 p.

O'Connor, C. D. 2013. Spatial and temporal dynamics of disturbance interactions along an ecological gradient. PhD Dissertation, University of Arizona, Tucson, Arizona. 204 p.

O'Connor, C.D., Falk, D.A., Lynch, A.M., Wilcox, C.P. 2013. Growth and Demography of Pinaleño Mountain High Elevation Forests. Final Report for U.S. Forest Service, Rocky Mountain Research Station, Research Joint Venture Agreement 07-317. School of Natural Resources and the Environment, University of Arizona, Tucson. 58 p.

O'Connor, C.D. 2009. Response of Carabid Communities to Natural Disturbance-Based Management in the Mixed Boreal Forest of Western Québec. Master's Thesis. Université du Québec à Montréal. Montréal, QC. Canada. 114 p.

Work, T., Paradis, S., **O'Connor, K.**, Hibbert, A., Jacobs, J., Longpre, F., Gervais, D. 2008. Les arthropodes en tant qu'ingénieurs écosystémiques. Le Couvert Boréal. Été 2008, pp. 20-21.

Work, T., Paradis, S., **O'Connor, K.**, Hibbert, A., Jacobs, J., Longpre, F., Gervais, D. 2008. Vous avez dit. Le Couvert Boréal. Été 2008, pp. 12-13.

HONORS & AWARDS

AWARDS AND FELLOWSHIPS

2014 **Outstanding Dissertation Award**, University of Arizona School of Natural Resources and the Environment

**HONORS &
AWARDS
CONTINUED**

- 2013 **Clifford W. Carstens Jr. Endowment**, University of Arizona College of Agriculture and Life Sciences
- 2012 **Ervin Zube Scholarship**, University of Arizona SNRE
- 2012 **Andrew Ellicott Douglass Memorial Scholarship**, University of Arizona Laboratory of Tree-Ring Research
- 2011 **Western Forest Insect Work Conference Memorial Scholarship**
- 2011 **Pat and Miriam Reid Scholarship**, University of Arizona SNRE
- 2009 **President's Award, Best Graduate Research Poster**, University of Arizona Student Showcase
- 2009 **Best Student Presentation**, International Conference on Wildfires in the Boreal Forest
- 2007 **Lake Duparquet Research and Teaching Forest Fellowship**, Université du Québec

TRAVEL AWARDS

- 2014 Travel grant to attend the NSF Geo Earth Cube All Hands Meeting, Washington, D.C.
- 2014 Travel grant to attend the 9th International Conference On Dendrochronology, Melbourne, Australia.
- 2013 Travel grant to attend the Pacific Northwest Forest Vegetation Simulator Training, Vancouver, WA. UA Institute of the Environment.
- 2012 Travel grant to attend the Association for Fire Ecology National Congress, Portland, OR. UA Graduate Professional Student Council.
- 2012 Travel, Research, and Educational Experience (TREE) grant to attend the Association for Fire Ecology Southwest Chapter Meeting, Santa Fe, NM.
- 2012 Travel grant to attend the Association for Fire Ecology National Congress, Portland, OR. Association for Fire Ecology Southwest Chapter.
- 2012 Travel grant to attend the Western Forest Insect Work Conference, Penticton, BC. Western Forest Insect Work Conference Advisory Committee.
- 2011 Travel grant to attend Association of American Geographers Conference, Seattle, WA. UA Institute of the Environment.
- 2010 Travel grant to attend Western Forest Insect Work Conference, Flagstaff, AZ. UA Institute of the Environment.

**PROFESSIONAL
PRESENTATIONS**

CONFERENCE PRESENTATIONS

- C.D. O'Connor**, M.P. Thompson, D.E. Calkin. "Planning for a future of more fire, safer fire, and better fire." IAWF Fire and fuels conference. April 11-15, 2016 [Oral]
- C.D. O'Connor**, D.E. Calkin, M.P. Thompson. "An empirical machine learning approach for predicting future fire control points from historical fire perimeters." IAWF Fire and fuels conference. April 11-15, 2016 [Poster]

**PROFESSIONAL
PRESENTATIONS
CONTINUED**

C.D. O'Connor, G.M. Garfin, D.A. Falk. "Projected impacts of climate change on vegetation and fire in the Huachuca Mountains of Arizona." IAWF Fire and fuels conference. April 11-15, 2016 [Oral]

C.D. O'Connor, G.M. Garfin, D.A. Falk. "Projected climate change impacts on vegetation, fire, and wildlife habitat at Fort Huachuca, Arizona." AFE international Fire Congress, San Antonio, TX. November 16-20, 2015. [Oral]

C.D. O'Connor, G.M. Garfin, D.A. Falk. "Projected climate change impacts on vegetation, fire, and wildlife habitat at Fort Huachuca, Arizona." SERDP presentation to the Garrison Commander and Operations and Training Officers. Environment and Natural Resources Division, Fort Huachuca Arizona. February 25, 2015. [Oral]

C.D. O'Connor, R. Sagarin. "Direct Climate Effects on the Fort Huachuca Landscape." SERDP presentation to the U.S. Army Climate Change Adaptation Charrette. Environment and Natural Resources Division, Fort Huachuca Arizona. February 25, 2015. [Oral]

G.M. Garfin, A. Haworth, **C.D. O'Connor**. "Climate Change Impacts to Department of Defense Installations." Barry M. Goldwater Range Stakeholders meeting. Gila Bend, AZ. February 11, 2015. [Oral]

C.D. O'Connor, R. Sagarin, G.M. Garfin, D.A. Falk. "Moving beyond immediate threats: Long-term planning for wildfire and vegetation management in a changing climate" SERDP webinar for engagement with the Barry M. Goldwater Air Force Range and Neighboring Ownerships. October 17, 2014. [Oral]

C.D. O'Connor, A.M. Lynch, D.A. Falk, and T.W. Swetnam. "Severity and Associated Climate Conditions of Large Fires Diverge from Historical Precedent in High-Elevation Forests in the Pinaleno Mountains, Arizona, U.S.A." Large Wildland Fires Conference. Missoula, MT. May 19-23, 2014. [Oral]

A.M. Lynch, **C.D. O'Connor**, D.A. Falk, and C.P. Wilcox. "Spruce-Fir Colonization Following a High-Severity Fire in 1685 in Southern Arizona." Large Wildland Fires Conference. Missoula, MT. May 19-23, 2014. [Poster]

C.D. O'Connor, R. Sagarin, G.M. Garfin, D.A. Falk. "Climate Change Impacts and Adaptation on Southwestern DoD Facilities" SERDP Annual meeting, Washington, D.C. May 1, 2014. [Oral]

A.M. Lynch, **C.D. O'Connor**, N. Mukhamadiev, N. Ashikbaev, I.P. Panyushkina, A. Sagitov. "The historical role of *Ips hauseri* in the spruce forests of the Tien Shan Mountains, Kazakhstan." Poster presentation. RussDendro 2014 Conference, Kyrgystan. Poster presented by N. Mukhamadiev. [Poster]

**PROFESSIONAL
PRESENTATIONS
CONTINUED**

C.D. O'Connor, D.A. Falk, A.M. Lynch, and T.W. Swetnam. "Spatial and temporal interactions between spruce beetle outbreaks, fire, and climate in a remnant spruce-fir forest." 9th International Conference On Dendrochronology. Melbourne, Australia, January 13-17, 2014. [Oral]

C.D. O'Connor, D.A. Falk, A.M. Lynch, and T.W. Swetnam. "Spatial and temporal interactions between spruce beetle outbreaks, fire, and climate in a remnant isolated spruce-fir forest." Second American Dendrochronology Conference. Tucson, AZ. May 13- 17, 2013. [Oral]

C.D. O'Connor, D.A. Falk, A.M. Lynch, and T.W. Swetnam. "Anthropogenic shifts in fire regimes and species dynamics along a vertical gradient of the Pinaleno Mountains of Arizona." Association for Fire Ecology 5th International Fire Congress, Portland, OR December 3-7, 2012. [Oral]

C.D. O'Connor, R.A. Loehman, D.A. Falk, A.M. Lynch, T.W. Swetnam, and C.P. Wilcox. "Alternate realities: forest and fire dynamics in a 20th century with and without fire suppression." Association for Fire Ecology 5th International Fire Congress, Portland, OR December 3-7, 2012. [Oral]

C.D. O'Connor, A. M. Lynch, and I.P. Panyushkina. "Tree-ring sampling for dendroecology in the Zailiyskiy Alatau Mountains." Kazakhstan Institute for Plant Protection and Quarantine. July 30, 2012. [Invited Oral]

C.D. O'Connor, D.A. Falk, A.M. Lynch, T.W. Swetnam, and C.P. Wilcox. "Fire and Forest Dynamics along an Elevational Gradient of the Pinaleno Mountains of Arizona." Biodiversity and Management of the Madrean Archipelago III. Tucson, AZ. May 2, 2012. [Oral]

C.D. O'Connor, A.M. Lynch, D.A. Falk and T.W. Swetnam. "Dynamics of a spruce-fir island: Interactions among spruce beetle, fire, climate, and logging in the Pinaleno Mountains of Arizona." Western Forest Insect Work Conference 63rd Meeting. Penticton, BC. March 26-29, 2012. [Invited Oral]

C.D. O'Connor, D.A. Falk, A.M. Lynch, T.W. Swetnam, and C.P. Wilcox. "Fire, climate and human influences on forest dynamics along an elevational gradient of the Pinaleno Mountains of Arizona." Association for Fire Ecology Western Regional Conference. Santa Fe, NM. February 28, 2012. [Oral]

A.M. Lynch, **C.D. O'Connor**, C.P. Wilcox, T.L. Swetnam, D.A. Falk, R.A. Loehman "Pinaleno Demography and LiDAR," Mapping Vegetation Structure in the Pinaleno Mountains Using LiDAR Conference, NAFRI, Tucson, AZ. August 30, 2011. [Oral]

C.D. O'Connor, D.A. Falk, A.M. Lynch, and T.W. Swetnam. "Fire and climate influences on forest dynamics and demography along an elevational

**PROFESSIONAL
PRESENTATIONS
CONTINUED**

gradient within the Pinaleno Mountains of Arizona”, Association of American Geographers Annual Conference, Seattle, WA, April 13, 2011. [Oral]

C. D. O’Connor, A. M. Lynch, D. A. Falk, T. W. Swetnam, and R. A. Loehman. “Forest disturbance interactions in the Pinaleno Mountains: learning from the past to understand the present and plan for the future.” Western Forest Insect Work Conference. Flagstaff, AZ, March 2010. [Poster]

**PUBLIC
PRESENTATIONS**

OUTREACH PRESENTATIONS

C.D. O’Connor. “Climate Change Risk: Extreme Fires and Post-Fire Flooding.” Decision Center for a Desert City, Water and Climate Briefings Series. Arizona State University, Tempe, AZ. March 4, 2015. [Invited Panelist].

C.D. O’Connor. “Fire, insects and people: Three centuries of disturbance interactions along an ecological gradient of the Pinaleno Mountains, Arizona, USA” Arizona Plant Society Speaker Series, Sierra Vista AZ, October 17, 2014. [Invited Speaker]

C.D. O’Connor. “Franken forests and megafires: What is behind the past two decades of destruction in the West?” The Nature Conservancy Ramsey Canyon Reserve Speaker Series, June 19, 2014. [Invited Speaker]

C.D. O’Connor, A.M. Lynch, D.A. Falk, and T.W. Swetnam. “Fire, insects and people: Three centuries of disturbance interactions along an ecological gradient of the Pinaleno Mountains, Arizona, USA.” Southwest Fire Science Consortium webinar. June 11, 2014. [Invited Speaker].

C.D. O’Connor. “Fire ecology and forest demography of the Pinaleno Mountains”, Pinaleno Partnership field trip, May 5, 2014. [Invited Speaker]

C.D. O’Connor, D.A. Falk, A.M. Lynch, T.W. Swetnam, R.A. Loehman, C.P. Wilcox. “Disturbance interactions on an Arizona Sky Island”, University of Arizona Institute for the Environment Grad Blitz, February 1, 2011. [Oral]

C.D. O’Connor and R.K. Adams “Stories of climate, fire, and forest health: a history of place from a tree’s perspective”, Arizona Tree Council, Prescott, AZ, September 23, 2011. [Invited Speaker]

C.D. O’Connor. “Pinaleno Demography Project Teasing Apart Complex Disturbances in Western Forests.” Tree Ring Day. University of Arizona Laboratory of Tree-Ring Research. March 29, 2010. [Oral]

C.D. O’Connor, D.A. Falk, A.M. Lynch, and T.W. Swetnam. “Shifting from local to Landscape Controls of Disturbance Size and Severity: A Tree-Ring Reconstruction of Fire, Spruce Beetle Outbreaks, and Species Dynamics of

**PUBLIC
PRESENTATIONS
CONTINUED**

the Pinaleno Mountains.” University of Arizona Laboratory of Tree-Ring Research Lecture Series. April 18, 2012. [Invited Speaker]

C.D. O’Connor. “Sky Island Forest Ecology”, Flandrau Science Center Sky Island Focus Group. February 26, 2011. [Field Trip]

C.D. O’Connor. “Human Pyrogeography”, University of Arizona Biosphere 2. December 2010, Catalina, AZ. [Oral]

C.D. O’Connor. “Teaching Tree-Ring Science” Public Outreach Instructor, Laboratory of Tree-Ring Research and University of Arizona College of Science. Second Saturday’s Downtown. Tucson, AZ. October 9, 2010. [Oral]

T.L. Swetnam, **C.D. O’Connor**, D.A. Falk, and C.L. Wilcox. “Mapping forests in 3-D, Applications of vegetation mapping from aerial lasers.” , University of Arizona Student Showcase Research Exposition. Tucson AZ. November 6-7, 2009. [Poster]

**PROFESSIONAL
DEVELOPMENT
& WORKSHOPS**

ICS 100 certification, United States Department of Homeland Security. April 18, 2016.

Fuel Fire Tools Workshop. April 11, 2016. Portland OR.

USFS Pacific Northwest Forest Vegetation Simulator Training. February 1-4, 2013. Vancouver, WA

Mapping Vegetation Structure in the Pinaleno Mountains Using LiDAR Conference, NAFRI, Tucson, AZ. August 30, 2011.

Southwest Fire and Fuels Modeling Workshop, NAFRI, Tucson, AZ. January 31-February 2, 2012.

International Bark Beetle Workshop. US Forest Service Rocky Mountain Research Station and Northern Arizona University School of Forestry. August 10-14, 2010. Flagstaff, AZ

S-212 Wildland Fire Chainsaw Use Certification, Coronado National Forest, April 5-9, 2010. Tucson, AZ.

FIRE BGCv2 Users Workshop. Introduction and orientation to the tree-based landscape model FIRE BGC version 2. November 3-4, 2009, Missoula, MT.

LiDAR users group workshop, August 17-19, 2009 Tucson AZ.
Wilderness First Aid Recertification, University of Arizona. April 21-23, 2009. Tucson, AZ

OTHER PROFESSIONAL ACTIVITIES

Reviewer, Ecological Applications, Landscape Ecology, Forest Ecology and Management, International Journal of Wildland Fire, PLOS ONE, Journal of Ecology, Canadian Journal of Forest Research, Forests, Great Plains Research

Faculty Advisor, Cienega Watershed and Ecohydrology Club, 2014-2015

Co-investigator, Assessment of climate impact on spruce growth and insect outbreaks in the Zailyskiy Alatau, Kazakhstan., Kazakh Institute for Plant Protection and Quarantine, 2012

Visiting Forester, Boy Scouts of America, Philmont Scout Ranch, 2012

Vice President, Tucson Desert Doves Returned Peace Corps Organization, 2011-2012

Treasurer and Organizer, CONFOR Graduate Student Conference on Forest Ecology, 2008

AFFILIATIONS

2014-present National Science Foundation Earth Cube Data Access Initiative

2014-present Pinaleno Partnership

2013-present Cienega Watershed Management and Ecohydrology Club

2012-present Society of American Foresters

2011-present Western Forest Insect Work Conference

2010-present Association for Fire Ecology

2010-present Association of American Geographers

2009-present Returned Peace Corps Volunteers of Southern Arizona